

Amendments to the Claims:

This listing of the claim replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A modified trans-excision-splicing Group I ribozyme comprising at least two modifiable recognition elements, wherein at least one of said recognition elements is complementary to non-native target RNA sequence within a substrate and at least one of said recognition elements stabilizes binding of the ribozyme to a trans-excision splicing (TES) reaction intermediate product, and wherein the ribozyme initiates a first catalytic step in the absence of a guanosine cofactor and catalyzes a sequence specific excision of the non-native target RNA sequence and splices the 5' end of the substrate created by the excision to ~~an~~the ωG of the 3' end of the substrate created by the excision.
2. (Original) The ribozyme of claim 1 wherein the non-native target sequence is a single nucleotide.
3. (Original) The ribozyme of claim 1 wherein the non-native sequence comprises a premature stop codon.
4. (Currently amended) The ~~method~~ribozyme of claim 1 wherein the non-native sequence comprises a frameshift mutation.
5. (Original) The ribozyme of claim 1 wherein the at least one recognition element is complementary to the triplet expansion associated with Muscular Dystrophy.
6. (Original) The ribozyme of claim 5 wherein the ribozyme is ~~rP-8/4x-MD~~removes the triplet expansion region involved in Muscular Dystrophy.

7. (Original) The ribozyme of claim 1 wherein the ribozyme is a modified *P. carinii* ribozyme.

Claim 8 (canceled).

9. (Currently amended) The ribozyme of claim 8~~1~~ wherein the response elements are separated by a bridging sequence.

10. (Withdrawn) A method of removing a non-native nucleotide sequence from a target nucleic acid sequence comprising contacting the target nucleic acid sequence with a modified trans-excision-splicing Group I ribozyme comprising at least two modifiable recognition elements, wherein at least one of said recognition elements is complementary to the non-native target sequence and at least one of said recognition elements stabilizes binding of the ribozyme to a trans-excision splicing (TES) reaction intermediate product, and wherein the ribozyme catalyzes a specific excision of the non-native target sequence and splices together the 5' and 3' ends of the substrate created by the excision.

11. (Withdrawn) The method of claim 10 wherein the target sequence is a single nucleotide.

12. (Withdrawn) The method of claim 10 wherein the target sequence comprises a premature stop codon.

13. (Withdrawn) The method of claim 10 wherein the target sequence comprises a frameshift mutation.

14. (Withdrawn) The method of claim 10 wherein the target sequence comprises a triplet expansion repeat associated with disease.

15. (Withdrawn) The method of claim 14 wherein the disease is Muscular Dystrophy.

16. (Withdrawn) The method of claim 15 wherein the ribozyme is rP-8/4x-MD.

17. (Withdrawn) A method of treating a disease associated with a genetic mutation comprising administering to a patient in need thereof a modified trans-excision-splicing Group I ribozyme comprising at least two modifiable recognition elements, wherein at least one of said recognition elements is complementary to non-native target sequence associated with the disease and at least one of said recognition elements stabilizes binding of the ribozyme to a trans-excision splicing (TES) reaction intermediate product, and wherein the ribozyme catalyzes a specific excision of the non-native target sequence and splices together the 5' and 3' ends of the substrate created by the excision.

18. (Withdrawn) The method of claim 17 wherein the non-native target sequence comprises a single nucleotide.

19. (Withdrawn) The method of claim 17 wherein the non-native target sequence comprises a premature stop codon.

20. (Withdrawn) The method of claim 17 wherein the non-native target sequence comprises a frameshift mutation.

21. (Withdrawn) The method of claim 17 wherein the non-native target sequence comprises an expanded triplet repeat sequence.

22. (Withdrawn) The method of claim 21 wherein the expanded triplet repeat sequence is associated with Muscular Disease.

23. (Withdrawn) The method of claim 17 wherein the disease is Muscular Dystrophy.

24. (Withdrawn) The method of claim 17 wherein the ribozyme is rP-8/4x-MD.

25. (Currently amended). An expression cassette comprising a promoter operably-linked to a nucleotide sequence encoding a trans-excision-splicing ribozyme comprising ~~comprising~~ at least two modifiable recognition elements, wherein at least one of said recognition elements is complementary to non-native target RNA sequence within a substrate and at least one of said recognition elements stabilizes binding of the ribozyme to a trans-excision splicing (TES) reaction intermediate product, and wherein the ribozyme initiates a first catalytic step in the absence of a guanosine cofactor and catalyzes a sequence specific excision of the non-native target RNA sequence and splices the 5' end of the substrate created by the excision to anthe ωG of the 3' end of the substrate created by the excision.

26. (Withdrawn) A method of removing an internal expanded triplet repeat sequence from an RNA molecule comprising contacting the RNA molecule with the ribozyme of claim 1.

27. (Withdrawn) A method of removing a premature stop codon from a mutant RNA sequence comprising contacting the mutant RNA sequence with the ribozyme of claim 1.